

CABLE TESTING—GENERAL

TALKING CIRCUIT WITH MODIFIED

43A TEST SET

Contents	Page
1. General	1
2. Dead Cables	1
3. Working Cables	3

1. GENERAL

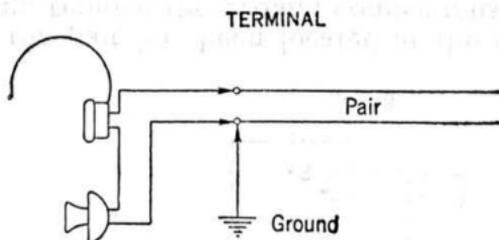
1.01 This section describes the methods of establishing a talking circuit with the modified 43A test set.

2. DEAD CABLES

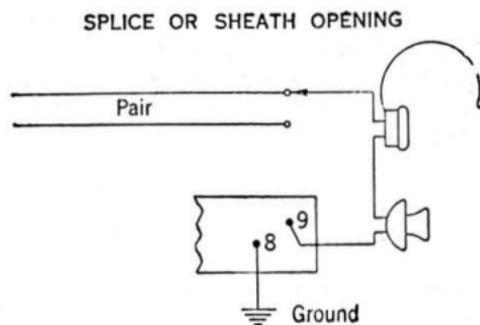
2.01 In dead cables, a talking circuit may be established by one of the following methods.

2.02 **Selecting Pair from Terminal by Grounding:** If a talking circuit is required from a distribution terminal to a splice or sheath opening nearby, it is advisable to select the pair at the terminal and identify it at the splice. If the test set is to remain at the splice, the pair should be grounded at the terminal and identified as a ground at the splice. The procedure is as follows:

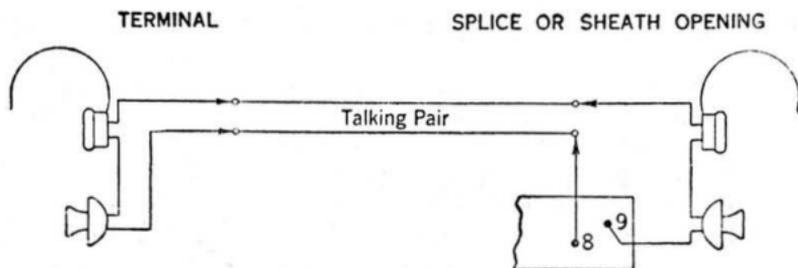
(1) At the terminal select a pair and connect the talking set as indicated below.



(2) At the splice or sheath opening, arrange the connection as illustrated on the following page. Then, using the scissors or test pick to make contact with the various wires, identify the grounded pair on which a loud battery click will be heard.

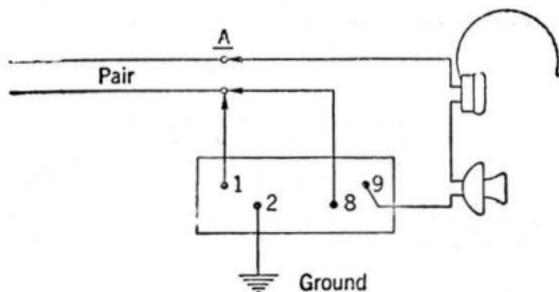


(3) After the pair has been located at the splice or sheath opening, remove the ground connections and set up the talking circuit as shown below.

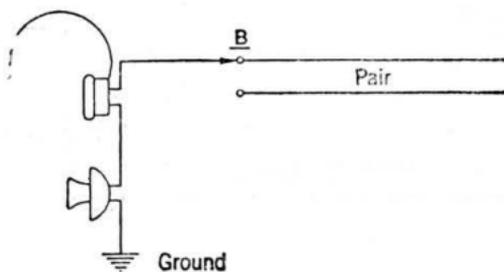


2.03 Selecting Pair by Tone: If the talking pair is to be selected from a splice or a large terminal, tone should be used to identify it at the other end. Designating the two places as A and B, each of which may be a splice, sheath opening or termination, the general procedure is as follows:

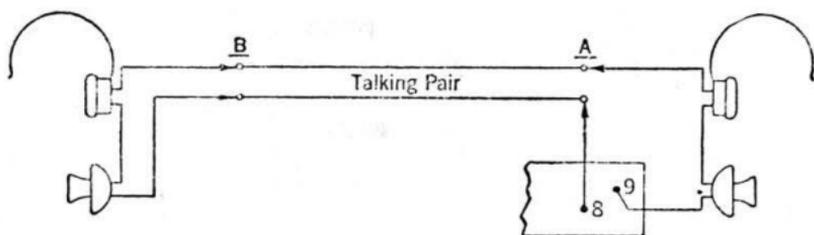
(1) At the sending end A, connect the test sets as illustrated below and send tone on the talking pair with the switch S1 in the send position.



(2) At the identifying end B, ground one side of the talking set and make contact with the wires or binding posts until the pair with tone is found.



(3) After the pair is located the talking circuit should be established as illustrated below.



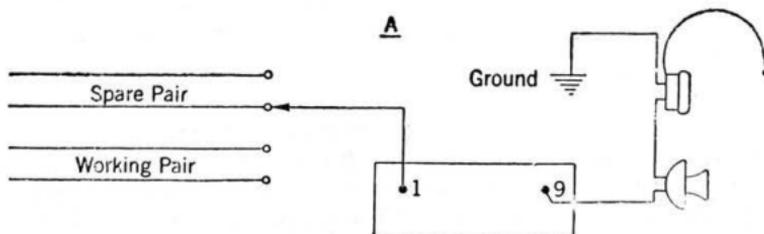
3. WORKING CABLES

3.01 In working cables a talking circuit may be established by one of the following methods, depending on the presence or absence of special circuits.

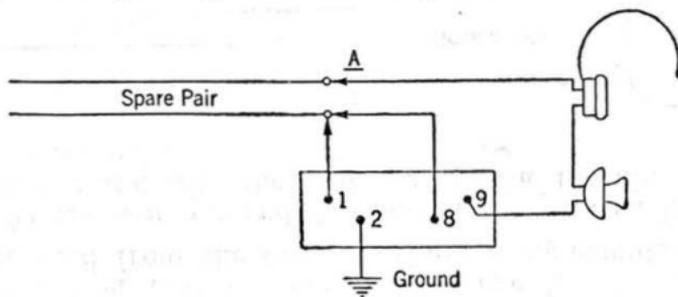
3.02 **Cable or Complement Containing No Special Circuits.**
The method described below may be used under the following conditions:

- (a) In working cable that does not contain special circuits.
- (b) In a complement that does not contain special circuits, provided that the complement can be identified and segregated from the other working complements.

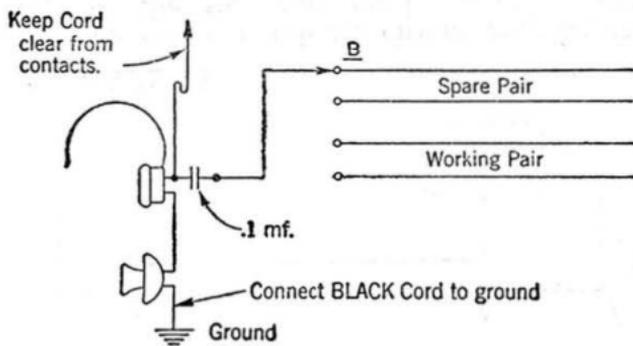
3.03 At the sending end A, connect the sets as illustrated below and with the switch S1 in the listening position select a spare pair.



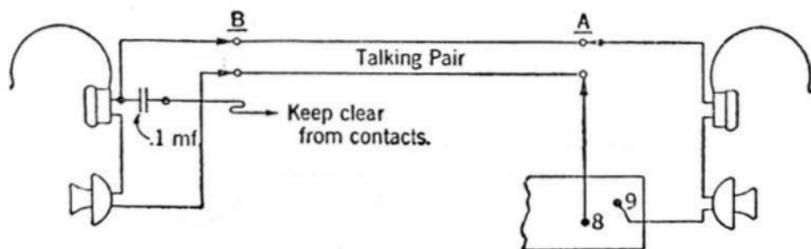
3.04 Test the spare pair for defects by means of the battery and receiver test. Then set up the talking circuit at the sending end as shown below and throw switch S1 to the SEND position putting tone on the pair.



3.05 At the receiving end B, the talking pair is identified with the talking set connected as shown below. The talking set should be equipped with a 1/10 mf condenser to avoid interference on working lines.

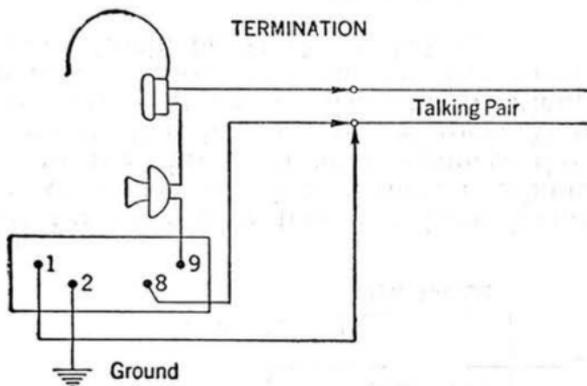


3.06 After the talking pair has been identified, the connections to the talking set at the identifying end B should be rearranged as indicated in the following sketch.

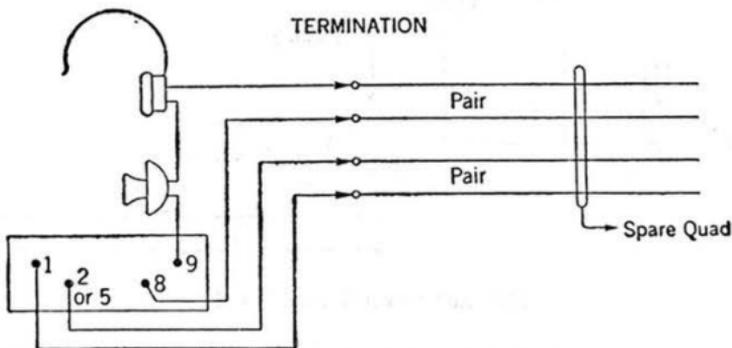


3.07 **Cable or Complement Containing Special Circuits.** In a cable or complement that contains special circuits, the talking circuit must be established by sending tone from a termination where the identity of the circuits is known. At the identifying end, the conductors must be identified by means of an amplifier and probe. The procedure is as follows:

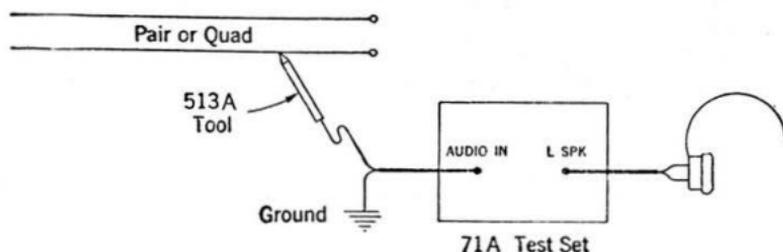
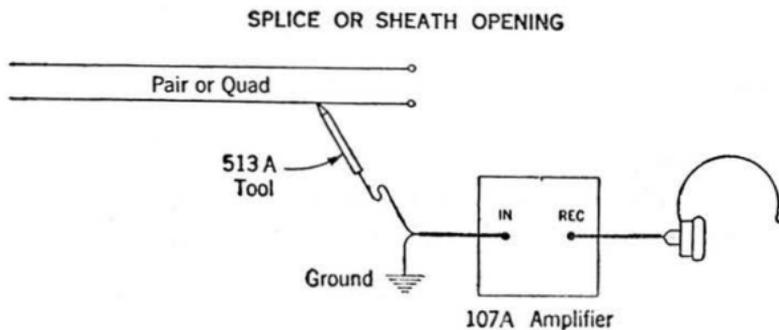
- (1) **In paired cable or in short quadded cable,** select a good spare pair at the termination and connect the talking set as shown below. Send tone on the talking pair with the switch S1 in the SEND position.



- (2) **In a long quadded cable** select a good spare quad at the termination and connect the talking set as shown below. With switch S1 in the SEND position send non-grounded tone on the pair. If the tone from posts 1 and 2 is hard to detect use non-grounded tone from posts 1 and 5.



(3) At the splice or sheath opening a 107A amplifier, or the audio-frequency circuit of the 71A test set, and a 513A tool (probe) must be used to identify the pair or quad that has the tone, as shown below.



(4) After the pair with tone has been identified at the splice or sheath opening, connect a talking set across the pair. In the case of a quad, connect the talking set across the pair that has the weaker tone. At the termination shift switch S1 to the listening position, which will stop the tone. Remove the tone sending connections. The talking pair should be as shown below.

